



WORKPLACE SAFETY AND HEALTH IN MASSACHUSETTS



*From The
National Institute for Occupational Safety and Health*

State Profile 2002

*Delivering on the Nation's promise:
Safety and health at work for all people through prevention.*

The National Institute for Occupational Safety and Health

NIOSH is the primary federal agency responsible for conducting research and making recommendations for the prevention of work-related illness and injury. NIOSH is located in the Department of Health and Human Services in the Centers for Disease Control and Prevention. The NIOSH mission is to provide national and world leadership to prevent work-related illness, injury, disability, and death by gathering information, conducting scientific research, and translating the knowledge gained into products and services. As part of its mission, NIOSH supports programs in every state to improve the health and safety of workers. NIOSH has developed this document to highlight recent NIOSH programs important to workers and employers in Massachusetts.

The Burden of Occupational Illness and Injury in Massachusetts

- In Massachusetts, there are approximately 3.2 million individuals employed in the workforce.¹
- In 2000, 67 workers died as a result of workplace injuries.²
- The services industry had the highest number of fatalities, followed second by construction, and third by manufacturing.²
- In 1999, the most recent year for which data are available, the rate of fatal workplace injuries was 2.6 deaths per 100,000 workers—below the national average rate of 4.5 deaths per 100,000 workers.²
- In 2000, there were 132,200 nonfatal workplace injuries and illnesses in Massachusetts.³

The Cost of Occupational Injury and Illness in Massachusetts

In 2000, the most recent year for which data are available, a total of \$666.5 million was paid for workers' compensation claims by Massachusetts private insurers and self-insured employers.⁴ This figure does not include compensation paid to workers employed by the federal government and also underestimates the total financial burden for private sector businesses, since only a fraction of health care costs and earnings lost through work injuries and illnesses is covered by workers' compensation. Chronic occupational illnesses like cancer are substantially under-reported in workers' compensation systems because work-relatedness is often difficult to establish.

How NIOSH Prevents Worker Injuries and Diseases in Massachusetts

Health Hazard Evaluations (HHEs) and Technical Assistance

NIOSH evaluates workplace hazards and recommends solutions when requested by employers, workers, or state or federal agencies. Since 1993, NIOSH has responded to 97 requests for HHEs in Massachusetts in a variety of industrial settings, including the following example:

Burlington, Massachusetts: Noise Exposure and Aviation Workers

In 2000, NIOSH responded to a request for an HHE from the Federal Aviation Administration's New England

Regional Occupational Health and Safety Office to measure aviation safety inspectors' daily noise exposures at work. NIOSH investigators studied the conditions at three airports, two repair facilities, and a maintenance and repair hangar and concluded that the inspectors' exposure to noise did not exceed the daily allowable noise limits. However, the average noise levels were sufficiently high to warrant the use of hearing protection devices, particularly for workers on airport ramps. NIOSH recommended that the inspectors be further studied to determine if their hearing protection devices are being worn properly.

Fatality Assessment and Control Evaluation (FACE) Investigations

NIOSH developed the FACE program to identify work situations with a high risk of fatality and to formulate and disseminate prevention strategies. In Massachusetts, FACE is conducted by the Massachusetts Department of Public Health, under a cooperative agreement with NIOSH. Since 1995, there have been 44 FACE investigations in Massachusetts, including the following example:

Massachusetts: Youth Killed While Operating Forklift at Seafood Processing Facility

On October 20, 2000, a 16-year-old male cleaning helper was fatally injured when the forklift he was operating at a seafood processing and retail facility overturned. The FACE investigator concluded that employers should: comply with child labor laws prohibiting youth from operating forklifts; provide safety training for all forklift operators; and implement a written comprehensive health and safety program.

Fire Fighter Fatality Investigation and Prevention Program

The purpose of the NIOSH Fire Fighter Fatality Investigation and Prevention Program is to determine factors that cause or contribute to fire fighter deaths suffered in the line of duty. NIOSH uses data from these investigations to generate fatality investigation reports and a database of case results that guides the development of prevention and intervention activities. Since 1997, there have been seven fire fighter fatality investigations in Massachusetts, including the following example:

Worcester, Massachusetts: Six Career Fire Fighters Killed in Warehouse Fire

On December 3, 1999, six career fire fighters died after they became lost while searching for two homeless people in a six-floor cold-storage and warehouse building that was on fire. It is presumed that the homeless people had accidentally started the fire on the second floor and then left the building. NIOSH recommendations to fire departments included: ensuring that inspections of vacant buildings and pre-fire planning are conducted; placing warnings at entrances of dangerous vacant buildings; and improving radio communications equipment.

Building State Capacity

State-Based Surveillance

NIOSH funds the Adult Blood Lead Epidemiology and Surveillance Program (ABLES) in the Massachusetts Department of Labor and Workforce. Through ABLES, the agency's staff track and respond to cases of excessive lead exposure in adults which can cause a variety of adverse health outcomes such as kidney or nervous system damage and potential infertility. In addition, NIOSH funds the Sentinel Event Notification System for Occupational Risk, or SENSOR, through which the state's Department of Public Health staff track and develop interventions for specific occupational diseases and injuries such as asthma.

Harvard Education and Research Center (ERC)

The Harvard ERC, one of 16 NIOSH ERCs nationwide, is based at Harvard University in Cambridge, Massachusetts. Graduate programs and continuing education are offered in industrial hygiene, occupational medicine, occupational health nursing, and occupational injury prevention. In fiscal year 2001, 26 students were enrolled in programs, 14 students were graduated, and 35 continuing education courses were conducted for 755 professionals.

University of Massachusetts Lowell

NIOSH funds a graduate training program in industrial hygiene, ergonomics, occupational epidemiology, and work environment policy at the University of Massachusetts Lowell. In fiscal year 2001, 82 students were enrolled and 16 were graduated; nine continuing education courses were conducted for 197 trainees.

Extramural Programs Funded by NIOSH

The following are examples of recent research contracts, research grants, training grants, or cooperative agreements funded by NIOSH in the state of Massachusetts.

Health Disparities Among Health Care Workers

Socioeconomic status is inversely associated with risk of morbidity and mortality from conditions such as musculoskeletal disorders, various types of acute injury, and mental health disorders. These conditions, while usually not life-threatening, have a major impact on the quality of life of a substantial proportion of the population. With support from NIOSH, researchers at the University of Massachusetts will study the work environment as a primary mediator of the effect of socioeconomic position on population health. The study will focus on health care workers, who are exposed to a variety of known health and safety hazards at work. This workforce also is very diverse in socioeconomic status, gender, and ethnicity and comprises a large proportion of the working population in Massachusetts and nationally.

Occupational Injuries to Youth

Each year in the U.S., more than 200,000 youth are injured on the job and at least 70 are killed. The Massachusetts Department of Public Health has identified the prevention of occupational injuries to youth as a public health priority and requires physicians to report such injuries. NIOSH supports the state's efforts to enhance this tracking system and to further research work-related injuries to youth in the state.

Work Injuries and Illnesses in Older Workers

With support from NIOSH, researchers at the University of Massachusetts are studying the causes and the social and economic consequences of work-related conditions on workers over age 55, whose number will be growing at a rate at least twice that of the general workforce in the U.S. Therefore, it is critical to have a better understanding of methods for rehabilitation and re-injury prevention for older workers.

Additional information regarding NIOSH services and activities can be accessed through the NIOSH home page at <http://www.cdc.gov/niosh/homepage.html> or by calling the NIOSH 800-number at 1-800-356-NIOSH (1-800-356-4674).

¹U.S. Department of Labor (DOL), Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics, Current Population Survey, 2000.

²DOL, BLS in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1999-2000.

³DOL, BLS in cooperation with participating state agencies, Survey of Occupational Injuries and Illnesses, 2000.

⁴National Academy of Social Insurance, *Workers' Compensation: Benefits, Coverage, and Costs, 2000 New Estimates*, May 2002.